

SURFACE ACOUSTIC WAVE DEVICE

This Application is a U.S. National Phase Application of PCT International Application PCT/JP2006/303570.

TECHNICAL FIELD

The present invention particularly relates to a surface acoustic wave device that is strong against the change in a pressure applied from the outside and an internal pressure and that is excellent in reliability under temperature cycling and the like.

BACKGROUND ART

10 Conventionally, this kind of surface acoustic wave device realized the reduction in size and height by forming a solder bump on the upper surface of an alumina mounting substrate, coupling a surface acoustic wave element to the mounting substrate via the solder bump with a surface for propagating a surface wave facing downward, and then coating the periphery of the surface acoustic wave element with a
15 sealing resin layer.

A conventional surface acoustic wave device described in, for example, Japanese Patent Unexamined Publication No. H8-204497 includes sealing resin 1, mounting substrate 2, solder bump 3, and surface acoustic wave element 4 as shown in Fig. 3A.

20 However, in a conventional configuration, bump 3 used for coupling surface acoustic wave element 4 and mounting substrate 2 is formed of only a solder material. An exterior is also formed of only a resin layer. Therefore, when a strong pressure is applied from the outside, bumps are largely crushed as shown in Fig. 3B, which may lead to problems in electrical characteristics, for example, an open-circuit fault, a short-
25 circuit fault, and the like.

SUMMARY OF THE INVENTION

A surface acoustic wave device of the present invention has three-layered